IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-50 (Canceled).

Claim 51 (Previously Presented): A method for screening a candidate ligand molecule that possesses an agonist or an antagonist biological activity on a target receptor of an XQHNPR (SEQ ID NO: 14) peptide, comprising:

a) preparing a biological material comprising a biological material comprising a cell sample or cell homogenate or a tissue sample;

b) incubating the cell culture, organ specimen, or tissue sample of a) in the presence of (i) $10^{-10} - 10^{-5}$ M of a candidate molecule under conditions suitable for activation of adenylate cyclase; and

c) measuring adenylate cyclase activity present in the biological material of a), respectively in the presence or in the absence of the candidate ligand molecule and in the presence of in the absence of a submaximal concentration of QHNPR (SEQ ID NO: 1).

Claim 52 (Previously Presented) The method of Claim 51, wherein the biological material in a) is a confluent target cell culture monolayer.

Claim 53 (Previously Presented) The method of Claim 51, wherein the biological material in a) is a target organ specimen.

Claim 54 (Previously Presented) The method of Claim 51, wherein the biological material in a) is a tissue cryosection.

Claim 55 (Previously Presented): The method of Claim 51, wherein the biological material in a) is a tissue slice.

Claim 56 (Previously Presented): The method of Claim 51, wherein the biological material in a) is a cell homogenate.

Claim 57 (Previously Presented): The method of Claim 51, wherein the biological material in a) is a primary cell culture.

Claim 58 (Previously Presented): The method of Claim 51, wherein the biological material in a) is an established cell line.

Claim 59 (Previously Presented) A method for screening a candidate ligand molecule that possesses an agonist or an antagonist biological activity on a target receptor of an XQHNPR (SEQ ID NO: 14) peptide, comprising:

a) culturing an eukaryotic cell capable of synthesizing collagen;

b) incubating the eukaryotic cell of a) in a beta-glycerophosphate in the presence of 10^{-10} - 10^{-5} M of the candidate molecule and in the presence of a submaximal concentration of QHNPR (SEQ ID NO: 1) peptide;

c) measuring production of a specific metabolite in the presence or in the absence of the candidate ligand molecule and in the presence of in the absence of a submaximal concentration of QHNPR (SEQ ID NO: 1).

Claim 60 (Previously Presented) The method of Claim 59, wherein said eukaryotic cell is a mammalian cell that naturally synthesizes collagen.

Claim 61 (Previously Presented) The method of Claim 59, wherein said eukaryotic cell is a cell that has been transfected or transformed with a nucleic acid encoding collagen.

Claim 62 (Previously Presented): The method of Claim 59, wherein the specific metabolite is calcium.

Claim 63 (Previously Presented): The method of Claim 59, wherein the specific metabolite is alkaline phosphatase.

Claim 64 (Previously Presented): The method of Claim 59, wherein the specific metabolite is DNA.

Claim 65 (Previously Presented): A method for screening a candidate ligand molecule that possesses an agonist or an antagonist biological activity on the target receptor of an XQHNPR (SEQ ID NO: 14) peptide, comprising:

a) preparing a biological material comprising a cell sample, cell homogenate or a tissue sample;

b) incubating the biological material of a) in the presence of $10^{-10} - 10^{-5}$ M of the candidate molecule and in the presence of a submaximal concentration of QHNPR (SEQ ID NO: 1);

c) measuring a metabolic change, respectively in the presence or in the absence of the candidate ligand molecule and in the presence or in the absence of a submaximal concentration of QHNPR (SEQ ID NO: 1).

Claim 66 (Previously Presented) The method of Claim 65, wherein the biological material in a) is a target organ specimen.

Claim 67 (Previously Presented) The method of Claim 65, wherein the biological material in a) is a tissue cryosection.

Claim 68 (Previously Presented) The method of Claim 65, wherein the biological material in a) is a tissue slice.

Claim 69 (Previously Presented): The method of Claim 65, wherein the biological material in a) is a cell homogenate.

Claim 70 (Previously Presented): The method of Claim 65, wherein the biological material in a) is a primary cell culture.

Claim 71 (Previously Presented): The method of Claim 65, wherein the biological material in a) is an established cell line.

Claim 72 (Previously Presented): The method of Claim 65, wherein the metabolic change is measured by an enzyme assay.

Claim 73 (Previously Presented): The method of Claim 65, wherein the metabolic change is measured by an ion transport assay.

Claim 74 (Previously Presented): The method of Claim 65, wherein the metabolic change is measured by a signal transduction assay.

Claim 75 (Previously Presented): A biologically active derivative of the XQHNPR (SEQ ID NO: 14) polypeptide which has been obtained according to the method of Claim 51,

provided that said biologically active derivative does not have the following structure: Y-HNP-Z, wherein Y denotes a glutamine (Q), a pyroglutamic acid residue, or a sequence of two aminoacids arginine-glutamine (RQ) and Z represents an OH group or a basic amino acid, the basic amino being Lysine (K) or an Arginine (R) or said biologically active derivative does not have the sequence QHNLR (SEQ ID NO: 1) or RQHNLR (SEQ ID NO: 12).

Claim 76 (Currently Amended): A biologically active derivative of the XQHNPR (SEQ ID NO: 14) polypeptide which has been obtained according to the method of Claim ~~65~~ 59,

provided that said biologically active derivative does not have the following structure: Y-HNP-Z, wherein Y denotes a glutamine (Q), a pyroglutamic acid residue, or a sequence of two amino acids arginine-glutamine (RQ) and Z represents an OH group or a basic amino acid, the basic amino being Lysine (K) or an Arginine (R) or said biologically active derivative does not have the sequence QHNLR (SEQ ID NO: 1) or RQHNLR (SEQ ID NO: 12).

Claim 77 (Currently Amended): A biologically active derivative of the XQHNPR (SEQ ID NO: 14) polypeptide which has been obtained according to the method of Claim ~~51~~ 65,

provided that said biologically active derivative does not have the following structure: Y-HNP-Z, wherein Y denotes a glutamine (Q), a pyroglutamic acid residue, or a sequence of two amino acids arginine-glutamine (RQ) and Z represents an OH group or a basic amino acid, the basic amino being Lysine (K) or an Arginine (R) or said biologically active derivative does not have the sequence QHNLR (SEQ ID NO: 1) or RQHNLR (SEQ ID NO: 12).